

# Addigy® GPC 3D1000C 000000

## Type

Also valid for material labelled as ADDIGY GPC 3051 00000 FR or Makrolon 3D 1000C 000000.

Additive manufacturing Polycarbonate grade for filament extrusion.

Transparent, tough and rigid; easy processing, low viscosity

## Specification Property

### Specimen

### Value

### Unit of measurement

### Method

Appearance	granulate	natural color		
Density	granulate	1210	kg/m <sup>3</sup>	ISO 1183-1
Melt volume rate 300 °C; 1.2 kg	granulate	34	cm <sup>3</sup> / 10 min	ISO 1133
Vicat softening temperature 50 N; 50 °C/h	granulate	112	°C	ISO 306
Young's Modulus xy-direction	printed bar (5A)	2010	MPa	ISO 527-2 (1 mm/min)
Tensile strength xy-direction	printed bar (5A)	63	MPa	ISO 527-2 (200 mm/min)
Elongation at break xy-direction	printed bar (5A)	4	%	ISO 527-2 (1 mm/min)
Impact strength yz-direction Charpy unnotched	printed bar	64	kJ/m <sup>2</sup>	ISO 179-1

Due to the large variety of machines and part geometries, given process parameters can only serve as an orientation.

## Printing Characteristics

Easy printable

Low warping (even without heated chamber)

Good surface finishing

Good layer adhesion



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## Technical Settings for Filament Extrusion

Filament extrusion temperature between 240 and 280 °C.

Predrying of granulate recommended at temperatures between 80 and 100 °C with drying times between two and twelve hours to achieve a moisture content of  $\leq 0.02\%$ .

Dried, hot granules must not be allowed to cool in the open air. They should be stored in dry, resealable containers. The material hopper on the machine must remain covered at all times.

## Recommended Parameters for Printing

Predrying of filaments recommended at temperatures between 80 and 100 °C with drying times between one and three hours to achieve a moisture content of  $\leq 0.02\%$ . During printing, keeping the filament in a filament dryer at 80 °C is recommended.

Speed: 10 - 80 mm/s

Nozzle temperature: 250 - 290 °C

Bed temperature: 100 °C

Build room temperature: 70 - 90 °C

Determined with nozzle diameter: 0.4 mm, layer thickness: 0.2 mm. In general it is recommended to print with higher speed at higher temperature.

## Storage

The product should be stored in its original packaging at all times.

If bags or containers have been opened, they must then be sealed again to ensure proper further storage.

Prolonged exposure of bags or containers containing Addigy® filaments or pellets to light or light sources containing UV rays should be avoided. UV radiation will lead to degradation especially, but not limited color changes of the filaments or pellets and subsequently molded parts.

Constant, normal room temperature with minimal fluctuations and low to normal humidity is essential.

It is important to properly dry the filaments and pellets, as directed for the product, prior to processing.





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## Storage time

Covestro represents that, for a period of twentyfour months following the day of shipment as stated in the respective transport documents, the product will meet the specifications or values set forth in section "specifications or characteristic data" above, whatever is applicable, provided that the product is stored in full compliance with the storage conditions set forth in and referenced under section "storage" above and is otherwise handled appropriately.

The lapse of the twentyfour months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Covestro recommends to test such a product if it still meets the specifications or the set values. Covestro does not make any representation regarding the product after the lapse of the twentyfour months period and Covestro shall not be responsible or liable in any way for the product failing to meet specifications or the set values after the lapse of the twentyfour months period.

## Labeling and statutory requirements

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently **valid Safety Data Sheet**.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

This product is not designated for the manufacture of a medical device or of intermediate products for medical devices<sup>1</sup>). [This product is also not designated for other specifically regulated applications (e.g. including cosmetics, plant protection, fertilisers, plant strengtheners, food processing, food contact and others). If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices or for other specifically regulated applications Covestro must be contacted in advance to provide its agreement to sell such product for such purpose.] Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by Covestro.

1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document.

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Product Datasheet

